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## GEOGRAPHICAL PUBLICATIONS

### (Reviews and Titles of Books, Papers, and Maps)

For key to classification see "Explanatory Note" in Vol. II, pp. 77-81

#### NORTH AMERICA

##### UNITED STATES

###### General

BACON, R. F., AND W. A. HAMOR. **The American petroleum industry.** Vol. 1: x and 446 pp.; Vol. 2: vi and pp. 447-963. Maps, diagrs., ills., glossary, index. With special chapters in Vol. 1 by F. G. Clapp, R. H. Johnson, J. P. Cappeau, and I. G. Huntley. McGraw-Hill Book Co., Inc., New York, 1916. \$10 for 2 vols. 9½ x 6.

This two-volume work is in some respects similar to the well-known English publication by Redwood. The first two chapters deal with the properties and origin of petroleum and its geology, these chapters being followed by one on the distribution of petroleum in the United States, in which much of the information is in condensed and tabulated form. Even though the book is professedly compiled for American usage, a few pages on foreign deposits, especially those of Canada and Mexico, would have been welcome. Geographers will be especially interested in the 75 pages of Chapter 5 devoted to the history of the petroleum industry, starting with the first mention of oil in Allegany County, New York, in 1627.

The succeeding chapters deal mainly with the technique of production. Some of the topics discussed are: oil well technology, valuation of oil properties, petroleum technology, and the extraction of gasoline from natural gas. A short but interesting chapter entitled "Some Problems of the Petroleum Industry" points out the great benefit that may be derived from industrial research, as in the line of perfecting refining processes, the development of uniformity of testing and analytical methods, and flexibility of refining so as to produce only such products as are in demand. The chapter on the shale oil industry is also timely in view of the interest that oil shales have been arousing, although the authors point out that there is little probability that these materials will be in demand until our oil and possibly coal supplies have been depleted.

The work closes with a glossary of *bitumenology*, a term that is reasonable although somewhat unique. The illustrations are on the whole good, but the map of distribution of oil and gas opposite page 70 is indistinct because of an overcrowded base and could be greatly improved.

H. RIES.

GRANT, MADISON. **War and race: Some biological notes on war.** *The Chronicle*, Vol. 1, 1917, No. 6, pp. [14-15]. New York.

A brief but strikingly suggestive and thoughtful paper on the biological results of the present war. There is outlined the effect of the Civil War in diminishing the virile type of man in New England through losses on Southern battlefields. The following quotations indicate the seriousness of the problem that the intensive struggle of today may bring to America.

"Will the teeming thousands from the East Side of New York contribute to the recruits or will they confine their devotion to their new found home, to pacifist, socialist, or anarchic meetings of protest against conscription?"

"If the various elements, racial and social, which compose our motley metropolitan populations, be not compelled to perform each its allotted share in the actual fighting, then the races and classes who do the fighting will suffer numerically much more than those who remain at home and breed in security."

"We have welcomed these aliens here and diluted our citizenship by sharing our rights and privileges with them and we have done this to solve a labor problem quite as much as from a desire to furnish a home for the oppressed of the world, although some sentimentalists think otherwise.

"Having admitted them to share our franchise and wealth shall we compel them to share the burdens of the defense of the nation or shall we do their fighting for them? The readiness that native Americans have shown in manfully and cheerfully accepting conscription gives a partial answer to this question, but the great mass of these foreigners, especially those of Levantine origin, near or remote, will slip through the draft-net

because of physical disability and thus escape the shock of battle. The Army demands only perfect specimens of manhood—no flat-feet, no stunted stature, or bleared eyes will do for the fighting line, but these are considered good enough, under our present system, to breed the future population of our country.”

GREELEY, W. B. **Some public and economic aspects of the lumber industry. Part 1: Studies of the lumber industry.** 100 pp.; maps, diagrs. *U. S. Dept. of Agric. Rept. No. 114* (contribution from The Forest Service). Washington, D. C., 1917.

The Forest Service has given, in a readable form, the results of its recent investigation into the great problems associated with the lumber industry in the United States. This pamphlet condenses what must have been a mountain of notes in the rough. For one either unacquainted or even quite familiar with the industry, surely here is a treatise worthy of study. The several maps showing various important facts of distribution and the graphs relating to production, prices, investments, and other closely related data, aid materially in making clear the arguments of the text. The present conditions of the lumber industry, some of the causes of these conditions, the part the public has played and should play, and some suggestions for the future success of forestry in this country constitute the main topics of the pamphlet. The discussion is so full of striking and pertinent revelations to the uninitiated that instead of citing quotations one prefers to recommend that it be read in its entirety.

EUGENE VAN CLEEF.

JOHNSON, E. R., T. W. VAN METRE, G. G. HUEBNER, AND D. S. HANCHETT. **History of domestic and foreign commerce of the United States.** With an introductory note by H. W. Farnam. Maps, bibliogr., index. Vol. 1: xv and 363 pp.; Vol. 2: ix and 398 pp. Carnegie Institution of Washington, Washington, D. C., 1915. \$5.40 for 2 vols. 10 x 7.

The first of a series of volumes, presumably twelve, to be prepared by the heads of the different divisions of the Department of Economics and Sociology of the Carnegie Institution and constituting “Contributions to American Economic History.” The material upon which these master volumes is based has been in the process of collection since 1903, and numerous monographs have been published from time to time. Naturally, however, American economists have been awaiting, with particular interest, the more comprehensive volumes; and, in view of the present widespread interest in American commerce, the appearance of Professor Johnson’s contribution as head of the Division of Domestic and Foreign Commerce is most timely.

Each volume consists of three parts. Part I of the first volume treats of American commerce from its crude beginnings down to 1789 and was written, largely, by Professor Johnson himself. Parts II and III were prepared by Dr. Van Metre and deal, respectively, with our internal commerce and the coastwise trade. Part I of the second volume is devoted to a discussion of the foreign trade of the United States since 1789 and was written, chiefly, by Professor Huebner. Parts II and III were contributed respectively by Drs. Van Metre and Hanchett and deal with the fisheries, governmental aid to commerce, and commercial policy.

American economists, especially those interested in economic history, will find in these volumes a good deal of valuable material. The student of American economic geography also would do well to give this work a careful perusal. For geographers in general, the chief interest in these volumes will be derived from the fact that they are appropriately introduced by an interesting chapter from the pen of Professor Johnson entitled “Geographical Influences Affecting the Early Development of American Commerce.” The point of view of the author is well expressed on pages 3 and 4, where he says: “The economic conditions that control the development of industry and commerce are partly natural or geographic and partly artificial or of man’s creation. The earth, as the field of human endeavor, broadly controls what man may do; it may bestow free gifts upon mankind; it may, and more often does, place obstacles, more or less difficult to surmount or circumvent, between man and the goal of his efforts; or it may fix definite limits beyond which it is vain to attempt to pass. . . . . At the time of the settlement of America, three centuries ago, industry and commerce were aided but slightly by the mechanical agencies which now enable men to modify, direct, and turn to their service the conditions imposed by their physical environment. Geographic conditions exercised such a strong influence upon the economic development of America that the history of American commerce should begin with a survey of the geography of the North Atlantic and the eastern part of North America. In making this survey, it will be best to consider the geographic control of both industry and commerce.”

AVARD L. BISHOP.

ASHLEY, G. H. **Oil resources of black shales of the Eastern United States.** *U. S. Geol. Survey Bull. 641-L*, pp. 311-324. Washington, D. C., 1917.

BAIN, H. F. **Prospects for tin in the United States.** *83rd Ann. Rept. Roy. Cornwall Polytechnic Soc.*, Vol. 3, 1916, Part 2, pp. 114-128 (discussion, pp. 125-128). Plymouth.

CELESIA DI VEGLIASCO, A. G. **Considerazioni economiche sugli Stati Uniti d'America, prima, dopo, e durante la guerra europea.** 59 pp. [*Boll.*] *Direz. Gen. degli Affari Comm.*, 1916, No. 5. Minist. degli Affari Esteri, Rome, 1916.

— **Coal industry of the United States in 1914.** *The. Ill. Mining and Engineering World*, Vol. 42, 1915, No. 6, pp. 290-293.

COTTERILL, R. S. **Southern railroads and Western trade, 1840-1850.** Map. *Mississippi Valley Hist. Rev.*, Vol. 3, 1917, No. 4, pp. 427-441.

DAVIS, W. M. **Topographic maps of the United States.** Maps. *Natl. Highways Assoc. Physiographic Bull. No. 1*, 1917, May, pp. 1-16. Washington, D. C. [Abstracted in the June, 1917, *Review* (Vol. 3, p. 490).]

DU BOIS, W. E. B. **The suppression of the African slave-trade to the United States of America, 1638-1870.** 3rd edit. xi and 335 pp.; diagr., bibliogr., index. (*Harvard Historical Studies*, Vol. 1.) Harvard University Press, Cambridge, 1916 (1st edit. 1896). \$1.50. 9 x 6.

ELY, R. T. **Landed property as an economic concept and as a field of research.** *Amer. Economic Rev.*, Vol. 7, 1917, No. 1, Suppl., pp. 18-48 (discussion, pp. 34-48). [Outlines land classifications to meet economic and legislative needs in the United States and suggests problems of research on landed property.]

EMERSON, F. V. **Geographic influences in the Mississippi Valley.** *Louisiana State Univ. Bull.*, Vol. 7, 1916, No. 7 (reprinted from *Proc. Mississippi Valley Hist. Assoc. for the year 1914-15*, Vol. 8, pp. 289-296). [Suggestions on the place of geography in historical study.]

FROTHINGHAM, E. H. **The status and value of farm woodlots in the eastern United States.** 43 pp.; maps, diagrs. *U. S. Dept. of Agric. Bull. No. 481.* Washington, D. C., 1917.

GRINNELL, G. B. **Recollections of the Old West: Appreciation of the historical canvases of Indian and pioneer American life painted by William de la Montagne Cary.** Ills. *American Museum Journ.*, Vol. 17, 1917, No. 5, pp. 333-340.

HENRY, A. J. **Snow studies in the United States.** Bibliogr. *Monthly Weather Rev.*, Vol. 45, 1917, pp. 102-113. [A discussion of the density of snow and a historical discussion of the measurement of snow in the United States. There is also a note on the disappearance and settling of snow in 1915-16 near Reno, Nev., by H. F. Alciatore. —R. DEC. W.]

#### North Atlantic States

BUFFINTON, A. H. **New England and the Western fur trade, 1629-1675.** *Publs. of the Colonial Soc. of Massachusetts*, Vol. 18, 1916, pp. 160-192.

This paper is a careful study of the early commercial development of New England. Fur trading with the Indians was the initial industry of the first New Englanders. It was the profit from fish and fur that attracted Captain John Smith. Fur trading in 1629 was declared a monopoly of the Massachusetts Bay Company, and its proceeds were used for forts and churches. In 1640 Thomas Lechford considered the fur trade the chief industry of Massachusetts. In the early days the geography of the New England streams was somewhat hazy, as when the traders of Plymouth considered the Merrimac and the Connecticut as having their headwaters in the rich beaver country about Lake Champlain or the Lake of the Iroquois. The New England traders were cut off from direct access to the principal sources of furs to the westward by the north-to-south trend of their streams, and by the claims of the Dutch and the French. The Dutch at New Netherlands held the open door to the Hudson River, and the French controlled the St. Lawrence and the Great Lakes. The establishment by English traders in 1636 of Springfield on the Connecticut River was the first move to the trade invasion of the Dutch territory.

The Massachusetts merchants early realized that to compete with the Dutch in the fur trade they must get a foothold on the Hudson River, and their sea-to-sea charter gave them some claims at least to the upper portion of this stream. This boundary quarrel between the Dutch and the English traders was changed in 1664 with the fall of the Dutch Governor, Stuyvesant, from an international affair to a colonial boundary dispute, in which considerable feeling developed between New York and Massachusetts. This paper shows how the single factor of fur trading was important in the attempts of Massachusetts to expand her early trade westward.

W. M. GREGORY.

HARSHBERGER, J. W. **The vegetation of the New Jersey pine-barrens: An ecologic investigation.** xi and 329 pp.; maps, diags., ills., index. Christopher Sower Co., Philadelphia, 1916. \$5.00. 9½ x 6½.

The New Jersey pine-barrens, notwithstanding their close proximity to New York and Philadelphia, represent one of the largest areas of primeval wilderness in the eastern United States. For fully a century and a half this region has been celebrated among botanists as the center of a unique flora, quite different from that which characterizes the adjoining parts of the coastal plain and the piedmont region west of the fall-line. As has been pointed out by Witmer Stone in his excellent account of the flora of the New Jersey coastal plain (*Ann. Rept. New Jersey State Museum*, 1910, Trenton, 1911, pp. 22-828), the pine-barren flora includes eighteen vascular plants of northward distribution which reach their southern limit, and seventy species of southward distribution which reach their northern limit along the coast in New Jersey. It also forms the apparent center of distribution for seventeen vascular plants which range from Massachusetts to Delaware or are even more restricted in their distribution. The geographical significance of these and certain related facts has been discussed by Hollick (*Trans. New York Acad. Sci.*, Vol. 12, 1893, pp. 189-202), Harshberger (*Phytogeographic Survey of North America*, 1911, pp. 219-221), Fernald (*Rhodora*, Vol. 13, 1911, pp. 109-162), Taylor (*Torreya*, Vol. 12, 1912, pp. 229-242), and others.

As first clearly delimited from surrounding parts of the coastal plain by Stone, the pine-barren vegetation in Stone's flora leaves little to be desired along floristic lines. The significance of this fact, as re-emphasized by Harshberger in the present volume, seems to be that the vegetation of the pine-barrens represents an isolated relict of a Miocene coastal plain flora, the perpetuation of which is to be attributed to the fact that the area which it occupies, in contrast to adjoining portions of the coastal plain, has been uninterruptedly out of the water since upper Miocene times. The treatment of the pine-barren vegetation in Stone's flora leaves little to be desired along floristic lines. The present work is an equally comprehensive treatment along ecological lines. The value of such a piece of investigation on the vegetation of this area, representing "an old and climax condition, ancestrally infinitely more ancient than anything in the surrounding region" (Taylor, *loc. cit.*, p. 242), hardly requires comment. Harshberger has discussed the vegetation from all angles, synecological and autecological, while many subjects are introduced which are of general rather than ecological interest. Nine natural plant formations are distinguished and described in considerable detail: the pine-barren, plains, cedar swamp, deciduous swamp, savanna, marsh, pond, river bank, and bog formations. As a result of the disturbance of primeval conditions various temporary successional formations may arise, but under natural conditions the vegetation for the most part is stable, the formations permanent, and the phenomena of succession lacking. In connection with the study of the formations, an extensive series of studies has been made on the soils of the region and on the root and shoot characters of individual plants.

GEORGE E. NICHOLS.

BEALS, C. E., JR. **Passaconaway in the White Mountains.** 343 pp.; ills., index. Richard G. Badger, Boston, and The Copp Clark Co., Ltd., Toronto, 1916. \$1.50. 8 x 5½. [A popular account of scenery, Indian legends, history of exploration, settlements, and adventures in the White Mountains.]

BENT, A. H. **Mount Monadnock.** Ill. *Appalachia*, Vol. 14, 1917, No. 2, pp. 109-119.

BONNAFFON, S. A. **Hell Gate Bridge: Some of the engineering features of the world's greatest steel arch bridge, and its place in the American railway system.** Ills. *Commercial America*, Vol. 13, 1917, No. 10, pp. 27 and 29. [Abstracted in the June, 1917, *Review* (Vol. 3, p. 486).]

BRADLEE, F. B. C. **The Eastern Railroad: A historical account of early railroad-ing in eastern New England.** Ills. *Essex Inst. Hist. Collections*, Vol. 52, 1916, No. 3, pp. 241-272.

— **Bronx Parkway Commission, Report of the.** 151 pp.; map, diagr., ills. Bronx Parkway Commission, New York, 1916. 10 x 7.

COVILLE, F. V. **The wild blueberry tamed: The new industry of the pine barrens of New Jersey.** Ills. *Natl. Geogr. Mag.*, Vol. 29, 1916, No. 6, pp. 535-546.

ELLIS, A. J. **Ground water in the Waterbury area, Connecticut.** 72 pp.; maps, diags., ills., index. *U. S. Geol. Survey Water-Supply Paper 397*. Washington, D. C., 1916.

*North-Central States*

LEVERETT, FRANK, AND F. W. SARDESON. **Surface formations and agricultural conditions of northeastern Minnesota.** With a chapter on climatic conditions of Minnesota by U. G. Purssell. vi and 72 pp.; maps, diags., ills. *Minnesota Geol. Survey Bull. No. 13.* Univ. of Minn., 1917.

A detailed report on a limited geographic area rises above the commonplace to the degree to which principles and generalizations are developed by the author. It is this feature that characterizes the present well-illustrated and carefully prepared paper. The longest chapter deals with agricultural conditions and land classification in the north-eastern quarter of Minnesota. Not only are the descriptions of the individual counties unusually good but the introduction to the chapter is exceptionally valuable in the regional geography of the state. The sections on glacial features in earlier chapters deserve special praise for their summary accounts and concise statement of conclusions drawn from the senior author's most recent studies over a wide area in the Great Lakes region. Noteworthy in this respect are the remarks on the Patrician ice sheet which preceded the Keewatin and Labrador sheets. The correlation of ice markings, surface changes, and distinctive drift deposits, with each of these three ice sheets is of very wide interest although a little difficult to get at because related items are distributed among the sectional topics—doubtless a condition imposed by the nature of the report. For the discussion of the ice sheet one should read pp. 16-17 and 47-49. Especially interesting are the remarks on p. 53 concerning the coalescence of the Labrador and Keewatin ice sheets and the distinctive surface features created thereby.

MERK, FREDERICK. **Economic history of Wisconsin during the Civil War decade.** 414 pp.; map, diagr., ills., index. (*Wisconsin Historical Studies*, Vol. 1, M. M. Quaife, edit.) State Historical Society of Wisconsin, Madison, 1916. 10 x 7.

Here is a volume in history that is full of geographic material. It might almost be called the economic geography of Wisconsin, save that it treats of a particular period. The author recognizes, however, that Wisconsin is only a political community, not a geographical or an economic unit, and his work describes conditions which existed in parts of neighboring states as well.

The development of Mississippi River commerce is traced—its struggle to retain its place against the invasion of railroads, its contrast with the commerce of the Great Lakes. The dependence of Wisconsin cities upon the development of their hinterland and their relation to routes of trade are brought out. The transition from wheat growing to dairying, as a result of the state's endowment of pure water and grass, is of interest in the light of the present importance of the latter industry. Lumbering is described not only in relation to the amount and method of production but also as influenced by rivers, lake routes, and the geographical location of the timber lands. The book is a distinct addition to the human geography of Wisconsin. It blazes a trail which others may well follow in what is almost a pioneer field, that of state economic geography and history. It is a good companion volume to Lawrence Martin's "Physical Geography of Wisconsin" noticed in the *Review* for March, 1917, p. 248. See also "Geographical Influences in the Development of Wisconsin" by Mary Dopp, a series of articles published in the *Bulletin of the American Geographical Society*, Vol. 45, 1913.

SAUER, C. O. **Geography of the upper Illinois valley and history of development.** 208 pp.; maps, diags., ills., index. [*Illinois*] *State Geol. Survey Bull. 27.* Urbana, 1916.

An important paper on the east-west portion of the upper Illinois valley between Joliet and Hennepin. It is divided into two sections, the first of which occupies 143 pages and is physiographic and geologic in character, following somewhat the general lines of similar reports in this and other state surveys. Except for a short section entitled "Relation of Topography to Occupations of Man" (pp. 24-28), the human geography is found in Chapter 7, "Settlement and Development of Upper Illinois Valley" (pp. 144-203). Chapter 7 is chiefly an account of geographic influences in the settlement of the region. It traces the origin of the settlers, outlines the pioneer conditions of life as to transportation and agriculture, and pays particular attention to railroad building and manufactures.

BABER, ZONIA. **Stony Island [Chicago]: A plea for its conservation.** 16 pp.; maps, diagr., ills. *Geogr. Soc. of Chicago Excur. Bull. No. 3.* University of Chicago Press, Chicago, 1917. 11 cents. 9 x 6.

BLAIR, W. R. **Sounding balloon ascensions at Fort Omaha, Nebr., May 8, 1916.** Diagr., *Monthly Weather Rev. Suppl. No. 3*, pp. 9-10. Weather Bureau, Washington, D. C., 1916.

— **Boundary dispute, retracing an old survey to settle.** Map, diagr. *Engineering News*, Vol. 76, 1916, Dec. 28, pp. 1234-1235. [Deals with the Ohio-Michigan boundary. Abstracted in the February, 1917, *Review* (Vol. 3, p. 147).]

CARNEY, FRANK. **Some pro-glacial lake shorelines of the Bellevue quadrangle, Ohio.** Maps, diagr. Reprinted from *Bull. of the Sci. Laboratories of Denison Univ.*, Vol. 17, 1913, pp. 231-246.

COOK, C. W. **The influence of the lumber industry upon the salt industry of Michigan.** Maps, diagr. *Journ. of Geogr.*, Vol. 15, 1916-17, No. 4, pp. 117-125.

CRAWFORD, RUTH. **The immigrant in St. Louis: A survey.** Bibliogr. *Studies in Social Economics*, Vol. 1, 1916, No. 2, pp. 1-108. St. Louis. 50 cents.

FENNEMAN, N. M. **Geology of Cincinnati and vicinity.** 207 pp.; maps, diagr., ills., index. *Geol. Survey of Ohio Bull. 19*, 4th Ser. Columbus, 1916. [Although primarily geological in character this report contains a physiographic section, Chapter VI, "History of the Present Surface," which contains items of unusual interest relating to the soil and particularly the loess, and is illustrated by a sketch of the preglacial drainage in the Cincinnati-Hamilton area (Fig. 48). The report, while intended for local use, contains so many physiographic interpretations that are carefully worked out as to be of wider interest than its title would imply.]

FOSTER, H. MCL. **Memories of the National Road.** *Indiana Mag. of Hist.*, Vol. 13, 1917, No. 1, pp. 60-66. [The National Road was the one great highway to the West from 1818 to 1852. It began at Cumberland, Md., and passed through Maryland, Pennsylvania, Virginia, Ohio, Indiana, till it was lost in the prairies of Illinois.]

FRITSCH, W. A. **German settlers and German settlements in Indiana: A memorial for the State Centennial, 1916.** 62 pp. [The Speed Press], Evansville, 1915. 50 cents. 7 x 5.

HERRON, W. H. **Profile surveys of rivers in Wisconsin.** 16 pp.; maps, diagr. *U. S. Geol. Survey Water-Supply Paper 417*. Washington, D. C., 1917.

— **Iowa, Census of, for the year 1915.** cxxxvi and 777 pp.; maps, index. Executive Council of the State of Iowa, Des Moines, [1916].

— **Iowa Geological Survey, Annual report: Vol. 25, 1914, with accompanying papers.** xxiii and 627 pp.; maps, diagr., ills., index. Des Moines, 1916.

KING, I. F. **Flatboating on the Ohio River.** *Ohio Archaeolog. and Hist. Quart.*, Vol. 26, 1917, No. 1, pp. 78-81.

#### *Western States*

CHAPMAN, C. E. **The founding of Spanish California: The northwestward expansion of New Spain, 1687-1783.** xxxii and 485 pp.; maps, ills., bibliogr., index. The Macmillan Co., New York, 1916. \$3.50. 9 x 6.

This interesting and scholarly study of the northwestward expansion of New Spain in the exploration and settlement of Spanish California is focused upon merely the central part of that brief period from the founding of San Diego in 1769 to the abandonment in 1783 of the overland route from Mexico to Alta California, an event following closely on the massacre by the Yuma Indians of the Spanish settlers on the lower Colorado River. The interest of the reader, however, is by no means confined to the brief central epoch of from 1773 to 1776; for Dr. Chapman, in illuminating that period, devotes seven preliminary chapters to the "advance of the Spanish conquest overland toward the Colorado and Gila Rivers from 1521 to 1773" and adds two concluding chapters throwing light on succeeding events up to the discovery of gold in 1848. When to this broad treatment of the special study is added the author's declared intention to trace in the first place "those influences that were at work prior to the nineteenth century whose tendency was to preserve Alta (or American) California, perhaps also Oregon and Washington, for ultimate acquisition by the United States," it is easily seen that this technically limited study is nevertheless broad enough to clarify the general reader's ideas of Spanish-American history from the time of Cortez to the present day.

To the trained historian naturally belongs any critical review of this important contribution to our knowledge of these early events so fundamental to our understanding of the spirit of civilization in the southwestern United States. Students in other fields, however, can appreciate the two years of painstaking study given by the author to the

original Spanish documents in the Archivo General de Indias at Seville and the extensive reading and study necessary to produce such a work with its wealth of footnote citations for specialists. The general reader will also appreciate the author's clear analysis of the scheme of the book in the preface and his method of giving in the opening paragraph of each chapter an interpretation and summary of the succeeding details gleaned from the original records.

To the geographer the specific interest of the book lies in the account of the exploration of a new land as told by the official reports and letters of the men who led the advance. Their persistent struggles, not always successful, against a decidedly unfavorable geographic environment, are brought into high relief by the necessities of the national policies. In the contest between the states of Europe for the acquisition of colonies in the New World, Spain feared that other nations, Russia and England particularly, might forestall her in getting a foothold in Alta California and from that vantage point possibly menace her southern possessions. Dr. Chapman's investigations throw great light upon the influence of this motive during the greater part of the eighteenth century, thus enabling the reader to understand the long and strenuous efforts for further expansion before the colonies already established were fully developed. In order to make and to defend these new settlements a line of communication and supply was an imperative necessity. The apparently open sea route, although always in use to some extent, had been found insufficient partly because of the small size and the scarcity of ships but largely because of storms and unfavorable wind conditions. Many instances of delay or disaster are cited, of which the following are illustrations: "Otondo spent over two months trying to get across the Gulf and then did it in one night." "The *San Carlos* had at length reached Loreto on August 23, after a voyage of nearly seven months from San Blas. It had been blown nearly to Panamá by storms."

In spite of these difficulties the Gulf of California had been crossed, and by strenuous efforts some missions established along the 800 miles of arid mountain waste of Baja California. They were maintained with difficulty and proved entirely unsuitable as a line of supply and communication.

It was therefore thought necessary to open and maintain an overland route through northwestern Mexico across the Colorado River into Alta California. The physical difficulties were great, and the hostility of the Indians was feared. The aridity and consequent barrenness of much of the country are comparable, broadly speaking, to conditions in the Sahara. In both instances the climatic conditions are the result of a like location on the western border of a continent facing an ocean in the latitude of the trade winds. After long years of undeveloped projects and the slow accumulation of information the first Anza expedition in 1774 successfully made the trip, crossing the Gila and Colorado Rivers near their junction and, after some suffering and loss of animals, finally traversed the deserts, reaching Mission San Gabriel by way of San Felipe Canyon without the loss of a man. In the following year this overland route was successfully used in taking colonists and supplies to Alta California by the second Anza expedition composed of 240 men, women, and children, and more than a thousand domestic animals. Although there was great suffering and many animals perished in the desert no human life was lost. To appreciate this great achievement with the meager equipment of the period we should recall the many deaths among those crossing the same desert in the gold rush to California in later days.

RULIFF S. HOLWAY.

— **Big Horn Canyon, Power and irrigation project for the.** Maps, diagrs., ills. *Railway Rev.*, Vol. 59, 1916, No. 14, pp. 436-448. [Describes the project to build a dam 480 feet high in the canyon of the Big Horn River, Montana. A large tract of land nearby could be irrigated and power developed for a projected 68-mile electric railway. There are sections on the scenic beauty of the canyon, surveys and explorations in it, the dam, the railway, and irrigation. The photographs are the best ever published on the region (see item under "Gillette, Edward," below).]

CUPPER, P. A. [Oregon] **State Engineer's river survey guides water adjudicators.** *Engineering News*, Vol. 76, 1916, July 6, pp. 5-6.

DANIELS, MARK. **Crater Lake National Park.** Ills. *Amer. Forestry*, No. 274, Vol. 22, 1916, pp. 586-592.

DANIELS, MARK. **Glacier National Park.** Ills. *Amer. Forestry*, No. 271, Vol. 22, 1916, pp. 397-404.

DANIELS, MARK. **Mesa Verde and Casa Grande National Parks.** Ills. *Amer. Forestry*, No. 267, Vol. 22, 1916, pp. 139-145.

DANIELS, MARK. **Mount Rainier National Park.** Ills. *Amer. Forestry*, No. 273, Vol. 22, 1916, pp. 529-536.



DANIELS, MARK. **The Yosemite National Park.** Ills. *Amer. Forestry*, No. 270, Vol. 22, 1916, pp. 345-352.

DANIELS, MARK. **Yellowstone National Park.** Ills. *Amer. Forestry*, No. 272, Vol. 22, 1916, pp. 458-463.

EDWARDS, M. G. **The resources of California.** *Journ. of Geogr.*, Vol. 15, 1916-17, No. 8, pp. 259-263.

ELLIOTT, T. C. **The Dalles-Celilo portage: Its history and influence.** 42 pp.; ill. The Ivy Press, Portland, Oregon, 1915. 9½ x 6.

FERGUSON, H. G. **Placer deposits of the Manhattan district, Nevada.** Maps, diagr. *U. S. Geol. Survey Bull.* 640-J, pp. 163-193. Washington, D. C., 1917.

FEWKES, J. W. **The first pueblo ruin in Colorado mentioned in Spanish documents.** *Science*, No. 1185, Vol. 46, 1917, Sept. 14, pp. 255-256.

GILLETTE, EDWARD. **The first trip through Big Horn Canyon.** 7 pp. Sheridan, Wyoming. [An undated report, obviously of recent publication, on a hazardous journey down the Big Horn Canyon in March, 1891. The ice was three feet thick and the temperature 20° below zero F. Alternating cliffs and talus slopes abound; and at one point the walls are 1,000 feet high. Rapids occur immediately below the mouths of the larger tributaries. One infers, from the description, the existence of a number of hanging valleys of a rare kind—due to the weak tributaries of a young and powerful stream incised in hard rock. (See the entry above, "Big Horn Canyon, Power and irrigation project for the'').]

GREGORY, H. E. **The Navajo country: A geographic and hydrographic reconnaissance of parts of Arizona, New Mexico, and Utah.** 219 pp.; maps, diagrs., ill., bibliogr., index. *U. S. Geol. Survey Water-Supply Paper* 380. Washington, D. C., 1916. [Abstracted in the *September Review*, p. 217.]

GREGORY, W. M. **The growth of the cities of Washington.** *Journ. of Geogr.*, Vol. 14, 1915-16, No. 9, pp. 348-353.

GRIFFIN, J. A. **Washington thirty years ago.** *Washington Hist. Quart.*, Vol. 7, 1916, No. 2, pp. 133-135.

## SOUTH AMERICA

### GENERAL

MEANS, P. A. **An outline of the culture-sequence in the Andean area.** Maps, bibliogr. *Proc. Nineteenth Internatl. Congress of Americanists held at Washington, Dec. 27-31, 1915*, pp. 236-252. Washington, D. C., 1917.

The special interest of this paper lies in its use of the geographical method. Graphical representation of distribution in time is accompanied by graphical representation of distribution in space. In his "South American Archaeology," Joyce shows a short series of maps illustrating the growth of the Inca Empire: this has been amplified by Means. Chronological tables of pre-Inca civilizations—including the several coast areas from the Chimú to the Nasca valleys, Ecuador and the Diaguita (northwestern Argentina) region—are orientated by a map showing their localization and their relation to the great megalithic (Tiahuanacu) empire believed by Means to have flourished between 200 B. C. and 600 A. D. The map is based on archeological material, but a certain support is given by the historical data of Montesinos. With the recent favorable light cast on the heretofore condemned work of Montesinos is associated a revival of confidence in the reliability of Garcilaso de la Vega as historian. Upon this latter point turns the value of the series of maps (IV-XII) showing the growth of the Inca Empire. After a careful consideration of the very divergent substance of our two chief sources of Inca history—Garcilaso's "Royal Commentaries of the Incas" and Sarmiento de Gamboa's "History of the Incas"—Means strongly supports the former, and his maps are essentially based on Garcilaso's statements.

One of the improbable features of Sarmiento's account is the sudden expansion of the empire asserted to have taken place between the reigns of Viracocha and Pachacutec (eighth and ninth Incas respectively), an expansion from an area of a few square leagues around Cuzco to a consolidated realm stretching from Quito to Potosí, a latitudinal stretch of 20°. The growth depicted in the maps based on Garcilaso appear far more conformable both to what we know of the character of the empire and of the geographical circumstances in which it developed.

## EUROPE

## BRITISH ISLES

JEVONS, H. S. **The British coal trade.** xii and 876 pp.; map, diagrs., ills., bibliogr., index. (Series: National Industries, edited by Henry Higgs.) Kegan Paul, Trench, Trübner & Co., Ltd., London, and E. P. Dutton & Co., New York, 1915. \$2.25. 7½ x 5½.

This interesting and instructive volume covers practically every important aspect of the coal-mining industry and of the coal trade of the British Isles, though emphasis is laid upon the economic and social aspects. Scientific and technical problems are not disregarded, but the daily tasks and social life of the mining population are kept in the foreground, and so are the economic and commercial bearings of the industry. The importance of the coal industry in the national life is appreciated when we recall that it supports some five millions of inhabitants and that it is the corner-stone of Britain's manufacturing and commercial life.

There are twenty-eight chapters written in a style which can be easily understood by the educated general reader. A wide range of topics is covered. The nature of coal and of coal seams, the numerous uses of coal, methods of mining and preparation for the market, by-products of the industry, methods of paying wages and of marketing, safety devices in the mines, legal safeguards and inspection, miners' trade unions, conciliation boards, routine work of the miner, housing problems, and numerous other topics come in for illuminating description or discussion. The final chapter contains an excellent summary of the world's coal resources. The author states that he "can give good reasons for supposing that the condition of serious exhaustion due to consumption of three-fourths of the world's total store may well occur at no later date than 400 or 500 years hence."

A good deal of valuable material is relegated to an appendix of nearly one hundred pages. Here are included, among other data, lists of the largest colliery companies operating in leading British coalfields, a sample sale contract form, extracts from the Coal Mines Act of 1911, rules of the miners' federation of Great Britain, and a substantial classified bibliography. A considerable number of illustrations and diagrams and a large geological map of the British Isles add greatly to the usefulness of the work.

AVARD L. BISHOP.

TOMLINSON, W. W. **The North Eastern Railway: Its rise and development.** xvi and 820 pp.; maps, diagrs., ills., index. Andrew Reid & Co., Ltd., Newcastle-upon-Tyne, and Longmans, Green & Co., London, [1914]. \$5.63. 10 x 8.

The North Eastern Railway and its branches ramify throughout the counties of Northumberland, Durham, and Yorkshire, "the native land of railways." Here was opened in 1825 the first public line on which steam locomotion was used. This earliest line, the Stockton and Darlington Railway, originated as direct descendant of the mineral tramways. From 1620 to 1820 the region had been the scene of constant experimentation in transportation. Relaid and adapted to modern locomotion the present system includes some of the old roads along which coal has been carried without intermission for nearly two hundred years. The great eighteenth century development of the inland waterways counts as another factor in the history of these railways. Craze for canal construction resulted in a very complete topographical survey of the area.

BOSWORTH, G. F. **Ships, shipping, and fishing, with some account of our sea-ports and their industries.** (Cambridge Industrial and Commercial Ser., gen. edit.: G. F. Bosworth.) v and 86 pp.; maps, diagrs., ills., index. G. P. Putnam's Sons, New York. 45 cents. 8 x 5½. [Interesting elementary account of British shipping and the fishing industry. There is a chapter on the Cinque Ports and their decline, due in part to the eastward drift of sand along the coast which choked the ports and made them inland towns.]

— **British canal system, The.** Map. *Engineering Suppl. of the London Times*, No. 508, 1917, Feb. 23, pp. 44-45. [Abstracted in the *October Review*, p. 319.]

CHREE, C. **The magnetic storm of August 22, 1916.** Diagrs. *Proc. Royal Soc.*, No. 649, Ser. A, Vol. 93, 1917, pp. 177-187. [Observed at Eskdalemuir, Scotland, and Kew.]

CHUBB, L. W. **Highways and byways.** *Journ. Roy. Soc. of Arts*, No. 3352, Vol. 65, 1917, pp. 244-255 (discussion, pp. 254-255). [On the historical freedom of the King's Highway.]

## RUSSIA

COXWELL, C. F. **Through Russia in war-time.** 312 pp.; map, ills., index. Charles Scribner's Sons, New York, [1917]. 9 x 6.

It is a staunch traveler who undertakes in war time a journey like the great loop which Mr. Coxwell made from Archangel to Baku and back along the Volga across Russia, Finland, Sweden, and Norway to England. The author wisely fortified himself for the trip with three weeks' study of Russian in Petrograd; nevertheless his difficulties with the language were considerable, and one can but admire his courage and address in surmounting them. At times he gave way to the temptation of speaking in German when it was clear that this language was known to his interlocutor, but almost always with the unfortunate result of bringing on himself the suspicion of espionage. From the care with which the authorities in the remotest places scrutinized Mr. Coxwell's passports, it is evident that even rural Russia is fully alive to the dangers and difficulties of the time.

Although there is much of value in the portion of the book describing Archangel and Petrograd and the cities of central Russia, to many the most interesting part will be the chapters dealing with the less well-known Crimea and Caucasus. After visiting Balaclava and Inkerman the author proceeded by a fifty-mile motor drive to Yalta on the Black Sea. He speaks of this part of the trip with enthusiasm. At Baidar Gate from a bold rocky coast they looked down to the "blue Euxine" seventeen hundred feet below, then after a delightful drive reached "surpassing Yalta," with its background of pine-covered mountains four thousand feet high and the city and promenade along the edge of the sea.

The work is illustrated throughout with interesting photographs taken by the author. Comments on the scenery are mingled with casual observations on the peoples visited, their habits and costumes. For example, remarking on the legend and romance with which the whole Caucasus is alive, the writer speaks of the Ossetes, who have a language akin to the Persian, and wonders whether they are descended from the Sarmatians who, escaping from the Goths, maintained themselves near ice-bound Mount Kasbek, the region where classic Prometheus was said to have suffered for aiding mankind. At the same time the author discusses philosophically the dangers into which a traveler falls, of offensive pedantry on the one hand, and of missing choice opportunities for observation on the other. Traveling through Georgia, ceded to the Russian Czar in 1800, the author visited Mtskheta, its ancient capital, mentioned in the writings of Ptolemy, Strabo, and Pliny and claiming its first ruler to have been of the fifth generation from Noah. He calls it now "a miserable place," with its only activity the manufacture of coarse pottery. The country of the Khirghiz and the Kalmucks is fully described, with its somewhat unattractive inhabitants. Through a kindly peasant with whom he dined Mr. Coxwell learned the relative value of the horse and the camel in farm work. The cost being the same—twenty pounds—the camel is two or three times stronger than the horse and can live on coarser fare.

In conclusion Mr. Coxwell points out that Russia, the land of enigmas, is in a condition of such active evolution that it must long fascinate those loving to study man's development. He looks forward to its future with confidence and bespeaks sympathy for its generous and warm-hearted people.

R. H. JONES.

— **Apsheron Peninsula, The remarkable oil fields of the.** Map. *Russia*, Vol. 2, 1917, No. 4, pp. 15-22. New York. [Region about Baku on the Caspian Sea.]

BLANC, ÉDOUARD. **Le chemin de fer de Pétrograd à la côte Mourmane.** *Ann. de Géogr.*, No. 133, Vol. 25, 1916, pp. 47-60. [For an article on the same topic, see the *Review*, Vol. 1, 1916, pp. 128-132.]

BLINK, H. **De Ukraine of Klein-Rusland.** *Bibliogr. Vragen van den Dag*, Vol. 31, 1916, No. 8, pp. 577-594.

BRAUNER, A. **Notes sur la zoogéographie de la Crimée.** ILLS. *Recueil publié à l'occasion du vingt-cinquième anniversaire du Club Alpin de Crimée et du Caucase*, pp. 172-177. Odessa, 1915. [In Russian.]

BRUNOFF, P. **Russian meteorological science and agricultural investigation.** Translated by the Canadian branch of the International Institute of Agriculture. Map, ill. *Russia*, Vol. 2, 1917, No. 3, pp. 21-27.

— **Crimea, The wonderful.** Map, ills. *Russia*, Vol. 2, 1917, No. 2, pp. 15-22. New York.

GAY, E. F. **Russia-America: Economic doubles.** *Russia*, Vol. 1, 1916, No. 1, pp. 5-6. New York. [A short comparison between Russia and America. Both are plains

countries in a broad sense. Both have a great variety of still undeveloped resources. Cheap railroads and sparse population in large sections, great continental areas, chiefly agricultural exports, high tariffs, and a debtor relation to primarily industrial nations, are among the points of comparison.]

GIBRALTAR, BISHOP OF [H. J. C. KNIGHT]. **British communities in South Russia: Links with England.** Map. *London Times Russian Section*, No. 28, 1917, Jan. 27, p. 11. [“The English communities in Russia of today are the mercantile successors of these pioneers of the sixteenth century” (i. e. of “The Muscovie Company”).]

## AUSTRALASIA AND OCEANIA

### AUSTRALIA, NEW ZEALAND

— **Royal Geographical Society of Australasia, South Australian Branch, Proceedings of the Society for the Session 1913-14**, Vol. 15. xvi and 238 pp.; maps, diagrs., ills. Adelaide, 1915.

Contains unusually valuable notes on the history of exploration of Central and South Australia. The President's annual address consists of a history of early inland exploration and deals particularly with the explorations of Edward John Eyre, Sir Paul Edmund de Strzelecki, and Captain Charles Sturt.

The volume also contains a chapter on the Crozet Islands, the scene of many shipwrecks whose history has formed the basis of various tales of adventure. The most celebrated of the shipwrecks are described. There is a brief note on the Australian Antarctic Expedition and also on the storage of water in the River Murray. The volume is accompanied by a map of a portion of South Australia showing Eyre's track in 1839-41. A second map shows the country explored by the Central Australian Expedition under the command of Captain Sturt in 1844-46.

The most important paper is entitled “Journal of the Government North-West Expedition (March 30–November 5, 1903)” by Herbert Basedow. In 1903 the Parliament sent a party of explorers and prospectors into the farthest northwest country of the state of South Australia. The expedition left Oodnadatta, the terminus of the Great Northern Railway, during the historic rush to the Arltunga goldfield. Mount Todmorden Station on the Alberga River was the last outpost of settlement on the proposed route. The expedition left this point April 13. The party consisted of eight whites and several natives and traveled with a string of twenty camels. Mr. Basedow's report of the expedition is in the form of a diary which gives the localities of the march, including meteorological observations and notes on the character of the rock, the soil, the vegetation, and the natives. This form of presentation leaves the material in an unorganized condition so that one must read the whole account in order to obtain a connected idea of any features of special interest. It is, however, an exceedingly valuable report on a little-known region and will for some time to come form the basis of our knowledge of the natural history and geography of a remote part of South Australia.

ANDERSON, C. **Bibliography of Australian mineralogy.** 164 pp. *Geol. Survey of New South Wales: Mineral Resources No. 22*, Sydney, 1916.

ASTON, B. C. **The vegetation of the Tarawera Mountains, New Zealand.** Ills., bibliogr. *Trans. and Proc. New Zealand Inst.*, Vol. 48, 1915, pp. 304-314. Wellington, 1916. [“This area presents peculiar facility for the study of the spread of species on new ground, since only an infinitesimal fraction of the plants could have survived the 1886 eruption.”]

— **Australia, Climate and labour in northern.** Map. *Scottish Geogr. Mag.*, Vol. 32, 1916, No. 6, pp. 289-290. [Note on an article in the *Pastoral Review*. “The article contains two points of special interest, one dealing with the climate of the region and the other with the question of the efficiency of white workers in tropical climates.”]

BALL, L. C. **The Etheridge mineral field.** 58 pp.; maps, ills. *Geol. Survey of Queensland Publ. No. 245*. Brisbane, 1915. [This field occupies over 12,000 square miles to the south of Cape York Peninsula. It has been exploited for gold, silver, copper, lead, zinc, tin, tungsten, and bismuth.]

BARCLAY, H. V. **Report on exploration of a portion of central Australia by the Barclay-Macpherson Expedition, 1904-1905.** *Proc. Roy. Geogr. Soc. of Australasia, South Australian Branch: Session 1914-1915*, Vol. 16, pp. 106-130. Adelaide, 1916.

BARTRUM, J. A. **High-water rock-platforms: A phase of shore-line erosion.** *Diagr., ills. Trans. and Proc. New Zealand Inst.*, Vol. 48, 1915, pp. 132-134. Wellington, 1916. [A study in a location of classic interest. The “Old Hat” island, Bay of

Islands, Auckland, was used by J. D. Dana in his exposition of the development of submarine platforms.]

**BASEDOW, HERBERT.** *Journal of the Government North-West Expedition (March 30–November 5th, 1903).* Map, diags., ills. *Proc. Roy. Geogr. Soc. of Australasia, South Australian Branch: Session 1913-14*, Vol. 15, pp. 57-238. Adelaide, 1915. [Reviewed above in the first entry in this section.]

## PHYSICAL GEOGRAPHY

### METEOROLOGY AND CLIMATOLOGY

**CARPENTER, F. A.** *The aviator and the Weather Bureau.* 35 pp.; diags. and ills. San Diego Chamber of Commerce, San Diego, Cal., 1917

It is increasingly evident that in modern warfare flying has to be carried on under almost all weather conditions. On the other hand, it is becoming more and more obvious that aviators are today recognizing the importance of the meteorological factor as never before. They realize the need of a sound, simple, practical knowledge of certain elementary facts in connection with weather conditions and their changes, at the surface and at ordinary flying heights. At the cadet schools of the Royal Flying Corps, in England and in Canada, instruction in meteorology is recognized as an essential part of the course of preliminary training, and in the new schools of military aëronautics, recently established by the U. S. War Department at several universities and technical institutions in this country, lectures on meteorology are included in a five weeks' course of instruction.

There will doubtless be an immediate and rapid increase in publications dealing with such aspects of meteorology as are of the greatest importance in aviation. Dr. Carpenter's little book is one of the first of this sort. It gives a brief history of aviation in Southern California; a description of the War Department school of aviation at San Diego; a syllabus of two lectures given at that school on meteorology in relation to aviation; a brief account of weather observations made during an airplane flight, and the results of meteorological observations obtained in the free air in Southern California. Dr. Carpenter's little volume is an interesting report; in no sense exhaustive, but suggestive of the importance of the subject rather than indicative of its scope. There is a distinct and growing need for the publication of a well-considered and fairly complete syllabus of a course of instruction in practical meteorology adapted to the needs of aviators.

R. DEC. WARD.

**A[BEE], C., JR.** *What is a "geocol"?* *Monthly Weather Rev.*, Vol. 44, 1916, No. 10, pp. 580-581.

**ANGENHEISTER, G.** *Über die dreijährige Luftdruckschwankung und ihren Zusammenhang mit Polschwankungen.* Diags. *Nachrichten Kgl. Gesell. der Wiss. zu Göttingen: Math.-physik. Klasse*, 1914, No. 1, pp. 1-13.

**BIGELOW, F. H.** *La termodinámica de la atmósfera terrestre desde la superficie hasta el plano de desvanecimiento.* 142 pp.; diags. *Bol. Oficina Meteorol. Argentina No. 4.* Buenos Aires, 1914.

**BLAIR, W. R.** *Aërology.* Maps, diags. *Proc. Amer. Philos. Soc.*, Vol. 56, 1917, No. 3, pp. 189-211. Philadelphia. [The author aims at indicating the main points of contact between aërological observation and aëronautics. These points are illustrated by charts of especial interest. The major convectional systems of the atmosphere are shown in a meridional section. Twelve charts show means of wind observations in cyclones and anticyclones at elevations varying from 526 to 5,000 meters above sea level. Diurnal temperature distribution up to the 3,000 meter level at Mount Weather, Va., illustrates the origin of a local convectional system also of special interest to the aëronaut.]

**BLÁZQUEZ, ANTONIO.** *La vegetación y las lluvias.* *Rev. de Geogr. Colon. y Mercantil*, Vol. 13, 1916, No. 5, pp. 174-189. Real Soc. Geogr., Madrid. [On the influence of forests on rainfall.]

**BOGOLÉPOFF, MICH.** *De la distribution géographique de la différence annuelle de la pression atmosphérique.* Maps. Reprint from *Bull. Soc. Imp. des Naturalistes de Moscou*, 1913, pp. 665-689.

— Charts showing the deviation of the pressure and temperature from normal values for each month and for the year, based on observations at land stations, generally two for each ten-degree square of latitude and longitude. *British Meteorol. and Magnet. Year Book, 1911*, Part V. Edinburgh, 1916. [Prepared for issue with the first volume of the "Réseau Mondial," that for 1911, but delayed by accident.]